

DISTRIBUTING PROMOTIONAL AND ADVERTISING MATERIAL  
BASED UPON INTERNET USAGE

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FIELD OF THE INVENTION

This invention relates to electronic commerce and more particularly, to a method for sending promotional material based upon consumer movement within a web site.

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BACKGROUND

The Internet connects thousands of computers world wide through well known protocols, for example, Transmission Control Protocol (TCP)/Internet Protocol (IP), into a vast network. A computer needs a unique Internet Protocol (IP) address to communicate once connected to the Internet. Information on the Internet is stored world wide as computer files, mostly written

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in the Hypertext Mark Up Language ("HTML"). The collection of all such publicly available computer files is known as the World Wide Web (WWW).

The WWW is a multimedia-enabled hypertext system  
5 used for navigating the Internet and is made up of  
hundreds of thousands of web pages with images, text  
and video files, which can be displayed on a computer  
monitor. Each web page can have connections to other  
pages, which may be located on any computer connected  
10 to the Internet.

The WWW is based on the concept of hypertext, where connections from parts of text to other documents can be hidden behind words and phrases. The connections to hypertexts are referred to as hypertext links and they allow users to read documents in any order desired.

The WWW also uses hypermedia that connects links to pictures, sounds and any other data files, which can be stored on a computer. Conventionally, hypermedia connects data files regardless of their format.

A typical Internet user uses a client program called a "Web Browser" to connect to the Internet. A user can connect to the Internet via a proprietary

network, such as America Online or CompuServe, or via an Internet Service Provider, e.g., Earthlink.

A Web Browser may run on any computer connected to the Internet. Currently various browsers are available  
5 of which two prominent browsers are Netscape Navigator and Microsoft Internet Explorer.

The Web Browser receives and sends requests to a web server and acquires information from the WWW. A web server is a program that, upon receipt of a request,  
10 sends the requested document to the requesting user.

A standard naming convention known as Uniform Resource Locator ("URL") has been adopted to represent hypermedia links and links to network services. Most files or service can be represented with a URL. URLs  
15 enable Web Browsers to go directly to any file held on any WWW server. A URL typically consists of three parts: the transfer format (the protocol type), the host name of the machine which holds the file (WWW server name) and the path name to the file.

20 Information from the WWW is accessed using well-known protocols, including the Hypertext Transport Protocol ("HTTP"), the Wide Area Information Service ("WAIS") and the File Transport Protocol ("FTP"), over

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TCP/IP protocol. The transfer format for standard WWW pages is Hypertext Transfer Protocol (HTTP).

The Internet is also integrated with television, smart phones and other electronic devices, making  
5 electronic commerce a viable option for thousands of consumers and businesses alike. In a typical electronic commerce transaction, a consumer visits the web site of a seller, views an electronic image of a product or witnesses a product demonstration via a  
10 video/audio stream and may purchase a product or services by using a credit or debit card.

With the increasing popularity of the Internet, electronic mail ("email") has become a popular way to communicate. Email allows users to send text,  
15 pictures, video and audio recordings to a recipient or to a group of recipients.

Typically, a user will create an email message using an email program running on a computer that is or can be connected to a network of computers. The email  
20 message can include text, recorded and live video, audio files, image files and embedded web site links. Email messages also include sender's email address. A user electronically transmits email messages to a recipient or a group of recipients. The recipient(s)

can read and reply to email messages using an email program running on a computer.

The Internet is commonly used to send and receive email messages from anywhere in the world. Every user  
5 has a unique email address. The general form of an email address is given as: User@Domain. com. Domain is defined as the domain name service ("DNS") that implements the protocol used for email transfer. The protocol used for electronic mail on the Internet is  
10 called the Simple Mail Transfer Protocol ("SMTP"), where a user invokes SMTP to send an email.

Retailers and business entities today can conduct large-scale business in the electronic commerce environment and communicate with thousands of consumers  
15 via email messages. Advertising materials to consumers can also be sent via email messages that can contain text, images, video clips and web site addresses.

Currently, consumers receive electronic advertising material either as a part of a mass email  
20 transmission ("email blast"), or when a consumer provides an individual profile. Both the foregoing options have limitations. Mass email blasts may not consider what an individual consumer desires or prefers. Furthermore, getting consumers to provide

individual profiles is difficult because consumers may not willingly provide personal information.

Hence, what is needed is a method and system that efficiently and intelligently transmits  
5 advertising/promotional material by tracking individual user preferences.

#### SUMMARY

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The present invention addresses the foregoing by  
10 providing a method for electronically sending promotional material based upon consumer preferences. A unique identifier is assigned to a consumer electronic mail address and an electronic mail is sent to the consumer, wherein the electronic mail includes a  
15 plurality of embedded Internet web sites. Thereafter, the consumer accesses the plurality of embedded Internet web sites, and consumer user movement within the plurality of the accessed embedded Internet web sites is tracked.

20 Consumer movement within the web site is stored in a log file and the log file data is used to generate a master database, wherein the master database comprises of a plurality of segments including an electronic look up segment, consumer information segment, promotional

material segment, URL segment, credit card segment and purchase information segment. The master database is queried to obtain user tastes and preferences. Based upon the query results, promotional material is sent to  
5 the consumer.

In another aspect of the invention, consumer credit card information is acquired and consumer's movement within a web site is tracked by storing consumer's IP address corresponding to consumer's  
10 credit card information in a log file. Data stored in the log file is used to generate a master database, wherein the master database comprises of a plurality of segments including an electronic look up segment, consumer information segment, promotional material  
15 segment, URL segment, credit card segment and purchase information segment. The master database is queried to obtain user tastes and preferences. Based upon the query results, promotional material is sent to the consumer.

20 The present invention has the advantage over existing systems because it allows sellers to target potential customers effectively by using intelligent information regarding consumer tastes and preferences,

obtained efficiently by analyzing consumer movement within a web site.

This brief summary has been provided so that the nature of the invention may be understood quickly. A more complete understanding of the invention can be obtained by reference to the following detailed description of the preferred embodiments thereof in connection with the attached drawings.

10 BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is block diagram of a computing system with a computer connected to the Internet to carry out the inventive technique.

Figure 2 is a block diagram of the architecture of the computing system of Fig. 1.

Figure 3 is a block diagram showing a network topology to carry out the inventive technique.

Figure 4 is a topology of a network for electronic mail transfer.

Figure 5 is a basic flow chart showing computer executable process steps for sending promotional material to consumers.

Figure 6A is a topology of a network to implement process steps of Figure 5.



Figure 6B is an example of an electronic mail sent to a consumer according to one aspect of the present inventive technique.

Figure 6C shows an example of a seller's web site.

5        Figure 7A is an example of a log file generated to track consumer movement within a web site with a unique identifier tagged to consumer email address, according to one aspect of the present inventive technique.

10       Figure 7B is an example of a log file generated to track consumer movement within a web site using credit card information according to one aspect of the present inventive technique.

15       Figure 8 is a detailed flow diagram showing computer executable process steps to create a master database according to one aspect of the present invention.

Figure 9 is an example of a master database according to one aspect of the present invention.

20       Figure 10 is a flow diagram showing computer executable process steps to create a URL segment of the master database.

Figure 11 is a flow diagram showing computer executable process steps for sending promotional material based upon consumer credit card information.

Use of the same reference symbols in different figures indicates similar or identical items.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

5        Fig. 1 is a block diagram of a computing system for executing computer executable process steps according to the present invention, which includes a host computer 10, a monitor 11, and a printer 12. Monitor 11 may be a CRT type, a LCD type, or any other  
10    type of color or monochrome display. Printer 12 may be any type of printer such as an inkjet printer, laser printer, thermal printer, dot matrix, or the like for printing Internet documents. Also provided with  
15    computer 10 is a keyboard 13 for entering text data and user commands, and a pointing device 14 for processing objects displayed on monitor 11.

Computer 10 includes a computer-readable memory medium such as a rotating disk 15 for storing readable data. Besides other programs, disk 15 stores email  
20    programs, log files for tracking user movement within a web site, application programs including web browsers by which computer 10 connects to the Internet, accesses web pages, stores files on disk 15, displays data in

those web pages on monitor 11, and print data on printer 12.

Computer 10 can also access a computer-readable floppy disk storing data files, application program files, and computer executable process steps embodying the present invention or the like via a floppy disk drive 16. A CD-ROM interface (not shown) may also be provided with computer 10 to access application program files and data files stored on a CD-ROM.

10 A modem, an integrated services digital network (ISDN) connection, or the like also provides computer 10 with an Internet connection 17 to the World Wide Web (WWW). The Internet connection 17 allows computer 10 to download device drivers, data files, image files, 15 log files, application program files and computer-executable process steps embodying the present invention.

Figure 2 is a block diagram showing the internal functional architecture of computer 10. As shown in 20 Fig. 2, computer 10 includes a CPU 201 for executing computer-executable process steps and interfaces with a computer bus 209. Also shown in Figure 2 are a printer interface 202, a WWW interface 203, a display device

interface 204, a keyboard interface 205, a pointing device interface 206 and disk 15.

As described above, disk 15 stores operating system program files, application program files, web  
5 browsers, log files and device drivers. Some of these files are stored on disk 15 using an installation program. For example, CPU 201 executes computer-executable process steps of an installation program so that CPU 201 can properly execute the application  
10 program.

A random access main memory ("RAM") 207 also interfaces to computer bus 209 to provide CPU 201 with access to memory storage. When executing stored computer-executable process steps from disk 15 (or  
15 other storage media such as floppy disk 16 or WWW connection 17), CPU 201 stores and executes the process steps out of RAM 207.

Read only memory ("ROM") 208 is provided to store invariant instruction sequences such as start-up  
20 instruction sequences or basic input/output operating system (BIOS) sequences for operation of keyboard 13.

Figure 3 shows a topology of a computer network with computers similar to computer 10, connected to the Internet. For illustration purposes, only three

computers X, Y and Z are shown connected to the Internet 302 via Web Interface 203 through a gateway 301, where gateway 301 can interface N number of computers. Web interface 203 may be a modem, network  
5 interface card or a unit for providing connectivity to other computer systems over a network using protocols such as X.25, Ethernet or TCP/IP, or any device that allows directly or indirectly, computer-to- computer communications.

10 It is noteworthy that the invention is not limited to a particular number of computers. Any number of computers that can be connected to the Internet 302 or a network may be used.

Figure 3 further shows a second gateway 303 that  
15 connects a network of web servers 304 and 305 to the Internet 302. Web servers 304 and 305 may be connected with each other over a computer network. Web servers 304 and 305 can provide content to a user from database 306 and 307. Also shown in Figure 3 is a client side  
20 web server 308 that can be provided by an Internet service provider.

Figure 4 shows the topology of a network that allows sending emails to consumers using computer 10, or a similar computer that can be connected to a

network and/or the Internet. In Figure 4, computer 10 is connected to a mail server 402 via a communication server 401. Mail server 402 is connected to other computer networks including the Internet 302. Mail server 402 receives email messages with advertising and promotional materials and causes email messages to be sent to consumers with an email address.

Tracking consumer movement within a website:

Figure 5 is a flow diagram showing computer executable process steps according to the present invention for tracking consumer movement within a web site. Generally, the Figure 5 process steps include acquiring a plurality of consumer email addresses, applying a unique identifier to each acquired email address, sending emails with a web site address to a consumer having a unique email identifier, initiating a web site by the consumer in response to the sent email, tracking consumer movement within the website, creating a consumer profile based upon the consumer's movement within the web site, and sending promotional material based upon the consumer's profile.

More particularly, flow begins at step S501, in which a consumer's email address is acquired. The email address may be acquired at a retail store where a

customer purchases merchandise ("Point of Sale").

Furthermore, email addresses may be solicited from Internet users visiting a particular web site, acquired from other businesses and databases etc.

- 5           In step S502, the acquired email address is stored in a computer system similar to computer 10 connected to the Internet 302.

Figure 6A shows a topology of a computer network to implement process steps of Figure 5. Figure 6A shows a computer 600 similar to computer 10, and connected to the Internet and having a seller's web site. Also shown in Figure 6A is a log file 601, an email database 604 that stores emails acquired in step S501, an extraction program 602 and a report generating module 603 stored on computer 600 or at different computers connected to the Internet. The foregoing file, database, program and modules can be interlinked as separate modules located at different computers connected to the Internet, or can be combined into one single program. Figure 6A further shows a Consumer M with computer 10 or a computer similar to computer 10 connected to the Internet 302.

In step S503, the acquired email address is provided with a unique identifier. The unique

identifier can be information related to the consumer, or a random alphanumeric character. The unique identifier does not affect the consumer's ability to receive and send email.

5 In step S504, an email blast with the seller's web site address is sent to consumers whose email addresses have a unique identifier. Figure 6B shows an example of an email 604A sent to Consumer M with the email address ConsumerM@dgo.com. The email has an embedded  
10 URL 606, <http://www.mystore.com/?XXXX> sent by Retail Store 605. The web page associated with URL 606 can include links to other web pages located on different web servers. In the example of Figure 6B, "XXXX" after the "?" is the unique identifier assigned to the email  
15 address of consumer M. It is noteworthy that the unique identifier is not limited to any particular set of alphanumeric characters.

In step S505, Consumer M accesses the web site corresponding to URL 606 either by clicking on URL 606  
20 by pointing device 14, or by typing the URL 606 address by keyboard 13.

A Figure 6C shows a typical <sup>website 611</sup>~~web page 611~~ displayed on monitor screen 11, in a web browser 607 on Consumer M's computer similar to computer 10. Figure 6C also



shows various modules in web site 611, for example a products module 608 that allows Consumer M to view products or provide information regarding products, purchasing module 609 that allows Consumer M to

5 purchase any products on-line and a contact module 610 that allows Consumer M to contact the retail store. Other modules can be added to web site 611. The foregoing modules can be located on different computers connected to the Internet.

10 In step S506, web server 600 logs the URL address with a unique identifier and a corresponding IP address for Consumer M's computer, tracks Consumer M's movement within web site 611 and stores all the data associated with Consumer M's IP address in a log file. Consumer

15 M's movement is tracked by first identifying the IP address with a unique identifier, and thereafter, the IP address is tracked when Consumer M visits the various links within web site 611.

Figure 7A shows an example of a log file 700 with

20 an IP address 701, an email unique identifier 703 and the date and time of Consumer M's visit 702 to the web site that provides the duration of the visit. Information logged can include all the web page addresses of the web sites that Consumer M visits,

include  
A wherein the web sites ~~includes~~ web pages located on a plurality of web servers, duration of the visits, and product purchased.

In step S507, extraction module 602 extracts  
5 information corresponding to the IP address 701 with a  
A ~~unique identifier 702~~ <sup>identifier 703</sup>. Information from the log file 700 can be extracted in real time while Consumer M is on-line or at any predetermined time interval.

In step S508, report-generating module 603  
10 generates a report based upon Consumer M's movement  
A ~~within web page 611~~ <sup>web site 611</sup>. Factors considered in creating the report include the type of modules visited, e.g., whether the user visited the clothing module, wine module or other product modules, duration of the visit  
15 and if the user purchased any item during the visit.  
Figure 8 below describes detail process steps to create a master database for generating such a report.

In step S509, a second email is sent to Consumer M based upon Consumer M's tastes and preferences  
20 determined by analyzing Consumer M's movement within web site 611.

Creating a master database based upon a consumer's movement within a web site:

Figure 8 describes process steps to create a master database based upon consumer movement within a web site. The master database provides information regarding consumer choices and preferences.

5           In step S801, extraction module 602 acquires log file 601.

          In step S802, extraction module 602 extract's consumer movement information within a web site tracked by a consumer's unique identification number and  
10   recorded in log file 601.

          In step S803, a master database is created based upon the extracted information.

          Figure 9 shows a typical database 900 that can be created from the extracted consumer information.

15   Figure 9 shows an email look up segment 901 that has email addresses and corresponding unique identification numbers for all consumers with tagged email addresses.

          A user information segment 902 includes details regarding consumer background including consumer  
20   identification number, telephone number, address, referral type, date the record was created, date consumer identification was deactivated and reason for deactivation and key codes corresponding to keywords

associated with web sites that the consumer has visited.

Figure 9 also shows a promotion segment 903 that includes information regarding promotional material sent to consumers. The promotion segment 903 includes consumer identification number, promotion identification number, date a particular promotion was sent, date the promotion was visited by the consumer, amount of time spent at the web site while visiting the promotion and any specific areas the consumer visited and key codes associated with key words corresponding to defined URLs.

Figure 9 further shows a purchasing segment 904 that provides transaction details when a consumer purchases products while at a web site that may be located at any web server. Purchasing module 904 includes information regarding consumer identification number, a promotion identification number, date of purchase, product name, product type, product identification code, cost and quantity purchased.

Also shown in Figure 9 are a URL segment 905, a referral segment 906 and a credit card segment 907. URL segment 905 includes URL addresses, keywords

corresponding to URL addresses and key codes associated with the keywords.

Figure 10 describes process steps for developing URL segment 905. Step S1001 obtains URL addresses with  
5 corresponding keywords. There are various ways to obtain URL addresses with keywords. For example, a seller could provide a list of URLs with associated keywords, or web sites associated with particular URLs can be manually visited and analyzed for determining  
10 keywords, or an automatic Internet crawler mechanism may be used to automatically obtain web sites associated with particular URL's and then analyzed for keywords.

In step S1002, assign unique key codes to keywords  
15 obtained in step S1001. For example, a single numeric key code can be assigned to a group of keywords in the website with a URL address. The key code assigned in URL segment 905, as shown in Figure 9 is also a data field in promotion segment 903.

20 Referral segment 906 includes information regarding consumer identification numbers, referral source identification information and the dates the consumers are referred.

Credit card segment 907 includes information regarding credit card type, date of purchase, amount spent and merchandise or services bought. Figure 11 describes in detail how Credit Card segment 907 is  
5 populated and utilized according to the present invention.

In step S804, master database 900 is queried to generate a user profile for sending promotional material. Various query options can be used to gather  
10 consumer information. For example, information regarding consumers that have purchased a product may be obtained from purchasing module 904. Information regarding consumers that have spent a minimum amount of time at the web site can be obtained from promotion  
15 segment 903. Keyword search can be performed by using key codes after acquiring key codes from URL segment 905 and then conducting a search in promotion segment 903. Hence master database 900 may be queried in different ways to obtain information regarding consumer  
20 taste, habit and preferences. Master database 900 can also be used to deactivate consumers who do not respond to any promotional materials or do not purchase any items, or have an invalid email address or if removal is requested by the consumer.

In step S805, promotional material is sent to consumers based upon consumer preferences obtained after querying master database 900.

Credit card segment:

5        Figure 11 shows computer executable process steps for tracking consumer movement within a seller's web site based upon user credit card information.

10        In step S1101, acquire consumer credit card information including consumer name and address. This information may be acquired when a consumer visits a seller's web site and purchases any item including merchandise or services. The consumer provides a credit card number, consumer name and consumer address. If the consumer provides an email address, then process  
15        steps of Figure 5 can be applied to send promotional materials.

20        In step S1102, track consumer movement after consumer has purchased an item from seller's website with a credit card. Consumer's movement is tracked by tracking consumer's IP address linked to Consumer's credit card information, and storing consumer movement in a log file similar to the log file shown in Figure 7B. The log file shown in figure 7B includes consumer's IP address 704, date and time of consumer

visit 705, credit card number 706, credit card type 707, product number 708, quantity purchased 709, cost 710 and product description 711.

In step S1103, generate consumer profile using  
5 credit card segment 907, similar to process step S508 of Figure 5 and step 804 of Figure 8.

In step S1104, send promotional material to consumer. Promotional material may be send electronically if email address was acquired in step  
10 S1101 or via regular mail since the street address was acquired in step S1101.

Although the present invention has been described with reference to specific embodiments, these embodiments are illustrative only and not limiting.  
15 Many other applications and embodiments of the present invention will be apparent in light of this disclosure and the following claims.